



Announcing a Two-Day Course Sequence:

Introduction to Bayesian Disease Mapping (IBDM)

Advanced Bayesian Disease Mapping (ABDM)

**March 12 - 13th and 15th -16th 2012
Historic Charleston, South Carolina**

COURSE CONTENT

These courses are designed to provide a comprehensive introduction to the area of Bayesian disease mapping in applications to Public Health and Epidemiology: The IBDM course will run on March 12th – 13th and the ABDM course will run on March 15th – 16th 2012.

The IBDM two-day course consists of sessions dealing with:

DAY 1

- Basic concepts of Bayesian methods and disease mapping
- Bayesian computation and MCMC
- Basic R and WinBUGS use
- Demonstration of risk estimation and cluster detection using WinBUGS

DAY 2

- Hands-on with simple WinBUGS models: Poisson-gamma; convolution models for risk estimation
- Ecological analysis, cluster models and space-time analysis
- Infectious disease models and veterinary data

This is designed for those who want to cover more advanced mapping methods, and includes ecological analysis and the use of WinBUGS software.

The course will include theoretical input, but also practical elements and participants will be involved hands-on in the use of R and WinBUGS in disease mapping applications. Both human and veterinary examples will be covered in the course as well as simple infectious disease space-time modelling. Examples will range over congenital anomaly birth data, influenza in South Carolina, foot-and-mouth disease in the UK and oral cancer in Georgia.

(There will also be a half day open revision tutorial Wednesday 14th in the PM.)

The ABDM course consists of:

DAY 1 Spatial topics

- Spatial models and simple variants: convolution, proper CAR, full MVN
- Special application: Case event modelling
- Special applications: sparse count data: zip and factorial regression
- Special applications: latent structure (L&C and mixtures)

- Spatial survival modelling

DAY 2 Measurement Error, Multivariate and Spatio-temporal modelling topics

- Measurement error, SEMS and Joint modelling. CPO and pseudo Bayes factor
- Multiple disease analysis
- Basic ST models: Bernardinelli, Knorr-Held, Waller; seasonal effects
- ST Kalman-filtering
- Clustering in ST data; surveillance and Infectious disease models

This is designed for those who want to cover advanced BDM methods, and includes advanced use of WinBUGS. The course will include theoretical input, but also practical elements and participants will be involved hands-on in the use of R and WinBUGS in disease mapping applications. Both spatial and spatio-temporal analyses will be considered. Examples will range over childhood asthma data from Georgia, influenza in South Carolina, foot-and-mouth disease in the UK and Ohio respiratory cancer.

THE SPEAKER

Professor Andrew B. Lawson (Division of Biostatistics & Epidemiology, College of Medicine, Medical University of South Carolina) is a World Health Organization (WHO) advisor on Disease Mapping and organized with the WHO an International workshop on this topic which has led to an edited volume “Disease Mapping and Risk Assessment for Public Health”. He has published a number of books focused on disease mapping and spatial epidemiology. In particular, a new volume entitled **Bayesian Disease Mapping** will be a course text for the IBDM course. A copy of the book is included in the course fee for that course only.

WHO SHOULD ATTEND

The courses are intended for epidemiologists and public health workers who need to analyse geographical disease incidence. In addition, the courses may be of interest to statisticians or geographers and planners who deal with spatial disease data. Some statistical/epidemiological background would be beneficial but is not essential.

WHY ATTEND

Participants will gain an in-depth understanding of the basic issues, methods and techniques used in the analysis of spatial health data using a Bayesian approach. They will gain insight into the detailed analysis of practical problems in risk estimation and cluster detection. The course is presented by a leading researcher in the field of disease mapping and spatial epidemiology.

COURSE FEES AND REQUIREMENTS

IBDM Two-day Course - \$500.00

Two-day course fee includes comprehensive course notes, lunch, refreshments and a copy of *Bayesian Disease Mapping: Hierarchical Modeling in Spatial Epidemiology*, Lawson, A. B., (2009), CRC press, New York.

ABDM Two-day Course - \$500.00

Two-day course fee includes comprehensive course notes, lunch, and refreshments.

Joint booking of both courses in the sequence is discounted to \$800.

Attendees must bring a laptop with R and WinBUGS 1.4.3 software preloaded. Datasets will be provided. R and WinBUGS software can be downloaded from the following websites: <http://cran.wustl.edu> and/or www.mrc-bsu.cam.ac.uk/bugs

VENUE

The courses will take place on the campus of the Medical University of South Carolina, Division of Biostatistics & Epidemiology, Room 301, 135 Cannon Street, Charleston, South Carolina.

AREA ACCOMODATIONS:

Charleston Marriott Hotel
170 Lockwood Boulevard
Charleston, SC 29403
(843)723-3000/(800)968-3569
www.marriott.com/chsmc

Courtyard Marriott Charleston
125 Calhoun Street
Charleston, SC 29401
(843)805-7900 Phone
<http://www.charlestonhotel.com/>

Comfort Inn
144 Bee Street
Charleston, SC 29401
(843)577-2224

The Courtyard by Marriott
35 Lockwood Drive
Charleston, SC 29401
(843) 722-7229

Additional information on Charleston and area hotel accommodations may be found at www.charlestoncvb.com. Download a campus map at www.musc.edu.

PARKING

Parking is limited in downtown Charleston. Parking is available in the President Street parking garage (corner of Cannon and President Streets) for \$5 for the visitor day pass. The garage is about 200 yds from the course venue. If you plan to drive to Charleston and to campus, please contact June Watson (843-876-1578 or watsonju@musc.edu) for additional information on the parking location.



REGISTRATION INFORMATION

An Introduction to Bayesian Disease Mapping **March 12-13, 2012**
Advanced Bayesian Disease Mapping **March 15-16, 2012**
Medical University of South Carolina

Registration is limited to 20 participants

Deadline for Registration is February 24, 2012

Conference Registration per person (mark correct box):

IBDM - \$500

ABDM - \$500

Both Courses - \$800

Name _____

Title _____

Company/Organization _____

Address _____

City _____ State _____ Zip _____

Phone () _____ Fax () _____

E-mail _____

METHODS OF PAYMENT

Registration fees are payable in U.S. dollars only. Personal checks are acceptable if payable through a U.S. bank.

___ Enclosed is a check in the amount of \$ _____

___ Charge \$ _____ to my credit card.

___ American Express ___ Discover ___ MasterCard ___ Visa

Card# _____ Exp. Date _____

Authorizing Signature _____

Card Holder Address _____

Refund Policy: Requests for refunds must be made in writing. There will be a \$75 processing fee for cancellations before February 24th. Beginning February 24th, no refunds can be given.

We reserve the right to reschedule the course or courses should circumstances dictate, giving reasonable notice to participants.



_____ If you will require special accommodations or have special requests, please specify:

REGISTRATION OPTIONS

- Mail registration form and fee to:
Bayesian Disease Mapping courses
Medical University of South Carolina
Division of Biostatistics & Epidemiology
135 Cannon Street, Suite 303
Charleston, South Carolina 29425-8350
- Phone registration to:
Division of Biostatistics & Epidemiology
(843) 876-1578
- Fax registration form to:
Division of Biostatistics & Epidemiology
(843) 792-6000
- E-mail to watsonju@musc.edu